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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NOLAN, SANDRA M

ART UNIT	PAPER NUMBER
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1772

5

DATE MAILED: 08/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

mk5

Office Action Summary	Application No.	Applicant(s)	
	09/800,749	TSAI ET AL.	
	Examiner	Art Unit	
	Sandra M. Nolan	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 19-23 and 27-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 24-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: . |

DETAILED ACTION

Claims

1. Claims 1-40 are pending.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-18 and 24-26, drawn to compositions, films and articles, classified in class 524, subclass 398.
 - II. Claims 19-23, drawn to multilayer articles, classified in class 428, subclass (unknown).
 - III. Claims 27 and 28, drawn to methods of blending, classified in class 524, subclass 398.
 - IV. Claims 29-32, drawn to methods of making films, classified in class 264, subclass (unknown).
 - V. Claims 33-40, drawn to methods of making multilayer articles, classified in class 264, subclass (unknown).
3. The inventions are distinct, each from the other because of the following reasons:

Inventions III and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the compositions, films and articles can be made via solution mixing techniques.

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Inventions IV and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the compositions, films and articles can be made via solution mixing techniques.

Inventions V and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the compositions, films and articles can be made via solution mixing techniques.

Inventions III and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the compositions, films and articles can be made via solution mixing techniques.

Inventions IV and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process

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(MPEP § 806.05(f)). In the instant case, the compositions, films and articles can be made via solution mixing techniques.

Inventions V and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the compositions, films and articles can be made via solution mixing techniques.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group III, restriction for examination purposes as indicated is proper.

7. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group IV, restriction for examination purposes as indicated is proper.

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8. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group V, restriction for examination purposes as indicated is proper.

9. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group III, restriction for examination purposes as indicated is proper.

10. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group IV, restriction for examination purposes as indicated is proper.

11. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group V, restriction for examination purposes as indicated is proper.

12. Because these inventions are distinct for the reasons given above and the search required for Group III is not required for Group IV, restriction for examination purposes as indicated is proper.

13. Because these inventions are distinct for the reasons given above and the search required for Group III is not required for Group V, restriction for examination purposes as indicated is proper.

14. Because these inventions are distinct for the reasons given above and the search required for Group IV is not required for Group V, restriction for examination purposes as indicated is proper.

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15. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

16. During a telephone conversation with Mr. Roger Criss (973/455-4796) on August 19, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-18 and 24-26. Affirmation of this election must be made by applicant in replying to this Office action.

17. Claims 19-23 and 27-40 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

18. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Information Disclosure Statement

19. The information disclosure statement (IDS) submitted on May 9, 2001 (Paper No. 4) was considered by the examiner.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

22. Claims 1-8, 11-16, 18 and 24-26 are rejected under 35 U.S.C. 103(a) as being obvious over Akkapeddi et al (US 6,410,156 B1) in view of Speer et al (US 5,700,554).

Akkapeddi has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention
X "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or
X (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c).

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met → For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Akkapeddi teaches an oxygen scavenging polyamide composition for use in making bottles (col. 10, line 9) that are biaxially oriented (col. 10, line 17). The polyamide composition contains an oxidizable polydiene (col. 7, line 18-19), which is an epoxy- or anhydride-functional polybutadiene (col. 7, lines 53+). The polydiene is present as particles of 10 to 1,000 nm size (col. 8, lines 3-8) in combination with the polyamide (col. 8, line 10). The compositions also contain stearates or other carboxylates of cobalt, copper or ruthenium (col. 8, lines 13-32) and clay (col. 8, line 34) having an average platelet thickness of 1 to 100 nm and an average length of 50 to 700 nm (col. 8, lines 56-60).

Akkapeddi fails to teach ethylene/vinyl alcohol (EVOH) copolymer with polybutadiene.

Speer teaches oxygen scavenging bottles (col. 3, line 27) containing polybutadiene (a) (col. 5, line 3), transition metal salt (b) (col. 4, lines 46 and 60-62) and polymeric diluents (col. 5, line 60). It teaches the equivalence of EVOH and polyamides as barrier polymers (col. 6, lines 42-51). It teaches that the scavenging rate can be

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tailored by varying the amount and the nature of (a), (b) and polymer diluents used in the scavenging component of the packaging articles (col. 8, lines 1-7).

Both patents deal with the use of polybutadienes and combinations of polymers in oxygen scavenging bottles and are, therefore, analogous.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to substitute the EVOH of Speer for the polyamide in the polyamide/polydiene combinations of Akkapeddi in order to improve the barrier properties of the Akkapeddi compositions and bottles made therefrom.

The motivation to employ the EVOH of Speer in place of the polyamide in the combinations of Akkapeddi is found at col. 6, lines 42-51 and col. 8, lines 1-7 of Speer, where the equivalence of EVOH and polyamides as barrier polymers and the tailoring of the scavenging rate of articles, respectively, is taught.

It is deemed desirable to improve oxygen barrier/scavenging properties of bottles when they are to be used to house oxygen sensitive foods and beverages.

23. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akkapeddi and Speer as applied to claims 1-8, 11-16, 18 and 24-26 above, and further in view of Ve Speer et al (US 5,942,297).

Akkapeddi and Speer are discussed above.

They fail to teach the use of base catalysts in their compositions/bottles.

Ve Speer teaches that the by-product acids and aldehydes produced by oxygen absorption in oxygen scavenging systems (title) can be reacted with bases so that they are less migratory or immobilized (col. 7, lines 20-28).

The three patents are analogous because they all deal with oxygen scavenging products.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the bases of VE Speer to immobilized the by-products of oxygen scavenging generated in the compositions/bottles produced based upon the combined teachings of Akkapeddi and Speer, above.

The motivation to employ the bases of Ve Speer is found at col. 7, lines 20-28 of Ve Speer, where the immobilization of scavenging by-products is taught.

It is deemed desirable to immobilize aldehyde and acid by-products found in oxygen scavenging containers in order to minimize the likelihood that the flavor or aroma of the products in the container will be changed by the leaching of unwanted by-products into the contents of the container.

24. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akkapeddi and Speer as applied to claims 1-8, 11-16, 18 and 24-26 above, and further in view of Chuu (US 5,605,996).

Akkapeddi and Speer are discussed above.

They fail to teach that the EVOH is retortable.

Chuu teaches, at col. 11, line 63 through col. 12, line 7, the retorting of EVOH-containing containers (col. 10, lines 16-17; col. 11, line 16) in order to sterilize them (col. 12, lines 1-2).

The three patents are analogous because they all deal with oxygen scavenging polymeric systems.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the retorting of Chuu in order to sterilize the bottles suggested by the combination of Akkapeddi and Speer, above.

The motivation to employ the retorting of Chuu to sterilize the bottle suggested by the combination of Akkapeddi and Speer is found at col. 11 line 63 through col. 12, line 7 of Chuu, where the use of retorting to sterilize is taught.

It is deemed desirable to make bottles sterilizable in order to lessen the contamination of their contents with unwanted biological agents.

25. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akkapeddi and Speer as applied to claims 1-8, 11-16, 18 and 24-26 above, and further in view of Farrell (US 4,464,443).

Akkapeddi and Speer are discussed above.

They fail to teach the thermoplastic/barrier/thermoplastic structure recited in claim 17.

Farrell teaches, at col. 2, lines 30-34, the use of EVOH barrier layers between moisture barrier layers containing thermoplastic polymers. The layers are used as moisture resistant (col. 1, lines 29-34) in packaging for food (col. 1, line 15).

The three patents are analogous because they all deal with barrier layers in packaging.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the three layer structure of Farrell when making packaging for food in order to make the packaging resistant to moisture.

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The motivation to employ the layers of Farrell in packaging is found at col. 1, lines 29-34, where the moisture resistance of the layered packaging is discussed.

It is deemed desirable to make packaging moisture resistant in order to keep the package contents dry and uncontaminated.

Conclusion

Any inquiry concerning this communication should be directed to the Examiner, Sandra M. Nolan, whose telephone number is 703/308-9545. The Examiner can normally be reached on Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

If attempts to reach the Examiner by telephone are unsuccessful, her supervisor, Harold Pyon, can be reached at 703/308-4251. The general fax number for the art unit is 703/305-5436. The fax number for after final communications is 703/872-9310. The receptionist answers 703/308-0661.



S. M. Nolan
Patent Examiner
Technology Center 1700

SMN/smn
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August 19, 2002